

10/625,686

Appl: Jow et al

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ARL 02-27

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Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (Currently Amended) An electrolyte for a ~~lithium~~ battery, said electrolyte comprising:

a non-aqueous solvent; and

a salt mixture, said salt mixture comprising an alkali metal electrolyte salt and an additive salt ~~having an anion of a mixed anhydride of oxalic acid and boric acid~~ combination comprising a first additive salt having a first additive anion of bis(oxalato) borate and a second additive salt having a second additive anion of oxalyldifluoroborate.

Claim 2. (Currently Amended) The electrolyte of claim 1, wherein said additive salt combination is present in an amount of .1-60 mole percent of the total of said salt mixture.

Claim 3. (Currently Amended) The electrolyte of claim 1, wherein said first additive salt ~~comprises a member selected from the group consisting of an alkali metal salt of~~ is lithium bis(oxalato) borate, an alkali metal salt of and said second additive salt is lithium oxalyldifluoroborate, and combinations thereof.

Claim 4. (Original) The electrolyte of claim 1, wherein said alkali metal electrolyte salt comprises a member selected from the group consisting of: LiPF_6 , LiBF_4 , LiClO_4 ,

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$\text{LiC}(\text{SO}_2\text{CF}_3)_3$, $\text{LiN}(\text{SO}_2\text{CF}_3)_2$, $\text{LiO}_3\text{SCF}_2\text{CF}_3$, $\text{LiO}_3\text{SC}_6\text{F}_5$, LiO_2CCF_3 , $\text{LiB}(\text{C}_6\text{H}_5)_4$,

LiCF_3SO_3 , $\text{LiB}(\text{C}_2\text{O}_4)_2$, $\text{LiBF}_2\text{C}_2\text{O}_4$ and combinations thereof.

Claim 5. (Currently Amended) The electrolyte of claim 1, wherein said first additive salt comprises is lithium bis(oxalato) borate and present from 0.5 to 5 mole percent.

Claim 6. (Original) The electrolyte of claim 1, wherein said electrolyte salt comprises a member selected from the group consisting of: LiPF_6 , LiBF_4 , and combinations thereof.

Claim 7. (Original) The electrolyte of claim 1, wherein said non-aqueous solvent includes a carbonic acid ester.

Claim 8. (Original) The electrolyte of claim 7, wherein said carbonic acid ester comprises a member selected of the group consisting of: ethylene carbonate, butylene carbonate, propylene carbonate, vinylene carbonate, dimethyl carbonate, diethyl carbonate, dipropyl carbonate, ethylmethyl carbonate, methylpropyl carbonate, ethylpropyl carbonate, and mixtures thereof.

Claim 9. (Original) The electrolyte of claim 1, wherein said non-aqueous solvent includes at least one alkyl ester.

Claim 10. (Original) The electrolyte of claim 9, wherein said at least one alkyl ester comprises a member selected from the group consisting of: methyl acetate, ethyl acetate, propyl acetate, isopropyl acetate, butyl acetate, methyl propionate, ethyl propionate, propyl propionate, isopropyl propionate, methyl butyrate, ethyl butyrate, propyl butyrate, isopropyl butyrate, and mixtures thereof.

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Claim 11. (Original) The electrolyte of claim 1, wherein said solvent includes at least one cyclic ester or cyclic amide.

Claim 12. (Original) The electrolyte of claim 1, including at least one member selected from the group consisting of: γ -butyrolactone, N-methyl pyrrolidinone, and mixtures thereof.

Claim 13. (Original) The electrolyte of claim 1, wherein said salt mixture is present in an amount of .3-1.5 moles per liter.

Claim 14. (Original) The electrolyte of claim 1, wherein said solvent comprises, on a weight basis:

0-60% propylene carbonate;

0-60% γ -butyrolactone;

10-60% ethylene carbonate; and

0-80% of a member selected from the group consisting of: dimethyl carbonate, diethyl carbonate, ethylmethyl carbonate, methyl acetate, methyl propionate, methyl butyrate, and combinations thereof.

Claim 15-21 (Canceled)